

12-23-04

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Practitioner's Docket No. LAR-15816-2

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of: William K. Wilkie, Robert G. Bryant, Robert L. Fox, Richard F. Hellbaum, James W. High, Antony Jalink, Jr., Bruce D. Little, & Paul H. Mirick

Application No.: 10/653,824

Filed: September 3, 2003

For: Piezoelectric Composite Apparatus And A Method For Fabricating The Same

Mail Stop Amendment
Commissioner for Patents
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Date:

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23351

PTO/SB/08a (08-03)

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INFORMATION DISCLOSURE
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of

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Complete if Known

Application Number	10/653,824
Filing Date	09/03/2003
First Named Inventor	W. Keats Wilkie
Art Unit	
Examiner Name	

Attorney Docket Number LAR-15816-2

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
1	US	4,250,603	02/17/1981	Honeywell, Inc.	
2	US	4,479,069	10/23/1984	Hewlett-Packard Company	
3	US	4,613,784	09/23/1986	U.S. Navy	
4	US	4,747,192	05/31/1988	Kabushiki Kaisha Toshiba	
5	US	4,939,826	07/10/1990	Hewlett-Packard Company	
6	US	5,239,736	08/31/1993	Acuson Corporation	
7	US	5,340,510	08/23/1994	Materials Systems Inc.	
8	US	5,471,721	12/05/1995	Research Corporation Technologies, Inc.	
9	US	5,527,480	06/18/1996	Martin Marietta Corporation	
10	US	5,539,965	07/30/1996	Rutgers, The University of New Jersey	
11	US	5,645,753	07/08/1997	Kyocera Corporation	
12	US	5,656,882	08/12/1997	Active Control Experts, Inc.	
13	US	5,687,462	11/18/1997	Active Control Experts, Inc.	
14	US	5,692,279	12/02/1997	Motorola	
15	US	5,702,629	12/30/1997	AlliedSignal, Inc.	
16	US	5,849,125	12/15/1998	Stephen E. Clark	
17	US	5,860,202	01/19/1999	Brother Kogyo Kabushiki Kaisha	
18	US	5,869,189	02/09/1999	Massachusetts Institute of Technology	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
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		Number-Kind Code ² (if known)			
19	US- 5,874,868		02/23/1999	Murata Manufacturing, Co., Ltd.	
20	US- 5,977,691		11/02/1999	Hewlett-Packard Company	
21	US- 6,014,898		01/18/2000	Parallell Design, Inc.	
22	US- 6,038,752		03/21/2000	Parallell Design, Inc.	
23	US- 6,043,588		03/28/2000	Murata Manufacturing, Co., Ltd.	
24	US- 6,048,622		04/11/2000	Massachusetts Institute of Technology	
25	US- 6,069,433		05/30/2000	Active Control Experts, Inc.	
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27	US- 6,255,761	B1	07/03/2001	U.S. Navy	
28	US- 6,404,107	B1	06/11/2002	Active Control Experts, Inc.	
29	US- 6,489,706	B2	12/03/2002	Acuson Corporation	
30	US- 6,629,341	B2	10/7/2003	NASA	
	US-				

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		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

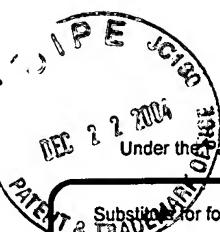
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Examiner Name	

NON PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	1	Hagood, N.W., and Bent. A. A., "Development of piezoelectric fiber composites for structural actuation", Proceedings of the 34th AIAA Structures, Structural Dynamics, and Materials Conference, AIAA Paper No. 93-1717, LaJolla, CA, 1993, pgs. 3625-3638.
	2	Wilkie, W. K et al., "Low-cost piezocomposite actuator for structural control applications," Smart Structures and Materials, 2000: Industrial and Commercial Applications of Smart Structures Technologies, SPIE Vol.. 3991, (2000), pgs. 323-334.
	3	Janos, B. Z. Et al., "A Magnetic particle doping for anisotropic matrix materials in active fiber composites," Smart Materials Technologies, Newport Beach, CA, SPIE Vol 3675, (March 1999), pgs. 10-21.
	4	MIDE Technology Corporation, Product Information Sheet, "Flexible Piezoelectric Technology," 8/99, pgs. 1-2.
	5	A. A. Bent, "Active fiber composite material systems for structural control applications", SPIE Proceedings, Newport Beach, CA, March 2-4, 1999, pgs. 166-177.
	6	A. A. Bent et al., "Improved performance in piezoelectric fiber composites using interdigitated electrodes," SPIE Vol. 2441, San Diego, CA, February 27-28, 1995, pgs. 196-212.
	7	J. P. Rodgers et al., "Characterization of interdigitated electrode piezoelectric fiber composites under high electrical and mechanical loading," SPIE Vol. 2717, San Diego, CA, February 26-29, 1996, pgs. 642-659.
	8	N. Hagood et al., "Improving transverse actuation of piezoceramics using interdigitated surface electrodes," SPIE Vol. 1917, 1993, pgs. 341-352.
	9	A. A. Bent et al., "Anisotropic actuation with piezoelectric fiber composites," J. of Intelligent Material Systems and Structures, Vol. 6, May 1995, pgs. 338-349.
	10	A. A. Bent et al., "Active fiber composites for structural actuation," January 1997, pgs. 1-209.

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